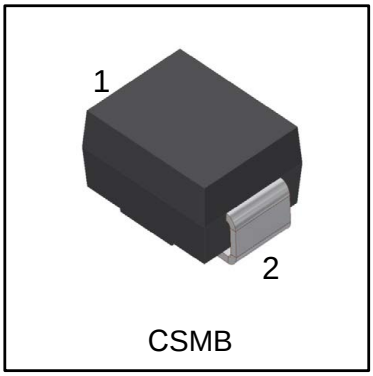
CLP0080SC thru CLP5000SC
S-CLP0080SC thru S-CLP5000SC

Transient Suppressor Protection Device



FEATURES and Benefits

- Low voltage overshoot
- Low on-state voltage
  Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low capacitance
- Low inductance
- High temperature soldering guaranteed:260°C/10 seconds.
- Weight: 0.11g
- We declare that the material of product complies with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

MECHANICAL DATA

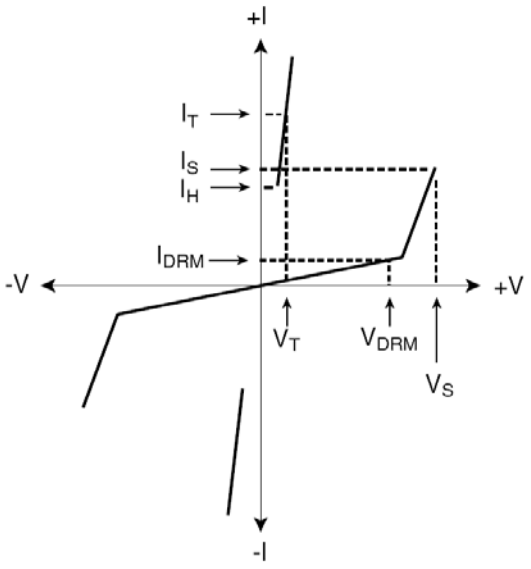
Case: JEDEC DO-214AA molded plastic

Applicable Global Standards

- TIA-968-A
- ITU K.20/21 Enhanced level
- ITU K.20/21 Basic level
- GR 1089 inter building
- IEC 6100-4-5
- YD/T 1082 ;YD/T 993 ;YD/T 950

1.Electrical Parameters

Parameter	Definition
C_O	**Off-state Capacitance** - typical capacitance measured in off state
I_S	**Switching Current** - maximum current required to switch to on state
I_{DRM}	**Leakage Current** - maximum peak off-state current measured at VDRM
I_H	**Holding Current** - minimum current required to maintain on state
I_{PP}	**Peak Pulse Current** - maximum rated peak impulse current
I_T	**On-state Current** - maximum rated continuous on-state current
V_S	**Switching Voltage** - maximum voltage prior to switching to on state
V_{DRM}	**Peak Off-state Voltage** - maximum voltage that can be applied while maintaining off state
V_T	**On-state Voltaget** - maximum voltage measured at rated on-state current
V_{PP}	**Peak Pulse Voltage** - maximum rated peak impulse voltage



2.ELECTRICAL CHARACTERISTICS CURVES

CLP0080SC - CLP5000SC Series - DO-214AA（CSMB） @10/700μs，4KV

Part Number	Marking	V_{DRM} @I_{DRM}=5μA	V_S @100V/μS	V_T @I_T=2.2A	I_S	I_T	I_H	Capacitance @1MHz,2V bias	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
CLP0080SC/S-CLP0080SC	P-8C	6	25	4	800	2.2	50	25	150
CLP0300SC/S-CLP0300SC	P03C	25	40	4	800	2.2	50	15	140
CLP0640SC/S-CLP0640SC	P06C	58	77	4	800	2.2	150	40	60
CLP0720SC/S-CLP0720SC	P07C	65	88	4	800	2.2	150	35	60
CLP0900SC/S-CLP0900SC	P09C	75	98	4	800	2.2	150	25	55
CLP1100SC/S-CLP1100SC	P11C	90	130	4	800	2.2	150	30	50
CLP1300SC/S-CLP1300SC	P13C	120	160	4	800	2.2	150	25	45
CLP1500SC/S-CLP1500SC	P15C	140	180	4	800	2.2	150	25	40
CLP1800SC/S-CLP1800SC	P18C	170	220	4	800	2.2	150	25	35
CLP2000SC/S-CLP2000SC	P20C	180	220	4	800	2.2	150	20	35
CLP2300SC/S-CLP2300SC	P23C	190	260	4	800	2.2	150	25	35
CLP2600SC/S-CLP2600SC	P26C	220	300	4	800	2.2	150	20	35
CLP3100SC/S-CLP3100SC	P31C	275	350	4	800	2.2	150	20	35
CLP3500SC/S-CLP3500SC	P35C	320	400	4	800	2.2	150	20	35
CLP4000SC/S-CLP4000SC	P40C	360	460	4	800	2.2	150	20	35
CLP4500SC/S-CLP4500SC	P45C	400	540	4	800	2.2	150	20	35
CLP5000SC/S-CLP5000SC	P50C	440	600	4	800	2.2	150	20	35

Notes:

- Absolute maximum ratings measured at TA= 25°C（unless otherwise noted）.
- Devices are bi-directional.

3.Surge Ratings

Series	I_{PP}					V_{PP}	I_{TSM} 50/60 Hz	di/dt
	2/10μS[1]	8/20μS[1]	10/160μS[1]	10/560μS[1]	10/1000μS[1]	5/310μS[1]		
	2/10μS[2]	1.2/50μS[2]	10/160μS[2]	10/560μS[2]	10/1000μS[2]	10/700μS[2]		
	A min	A min	A min	A min	A min	KV min	A min	Amps/μs max
C	500	400	200	150	100	4	30	500

Notes：− Peak pulse current rating （IPP）is repetitive and guaranteed for the life of the product.

1. Current waveform in μs − IPP ratings applicable overtemperature range of -40°C to +85°C
2. Voltage waveform in μs − The device must initially be in thermal equilibrium with -40°C < TJ < +150°C

4.Thermal Considerations

Package	Symbol	Parameter	Value	Unit
DO-214AA	T_J	Operating Junction Temperature Range	-40 to +150	°C
	T_S	Storage Temperature Range	-40 to +150	°C
	$R_{\Theta JA}$	Thermal Resistance：Junction to Ambient	160	°C/W

5.ELECTRICAL CHARACTERISTICS CURVES

Figure 1 - V-I Characteristics

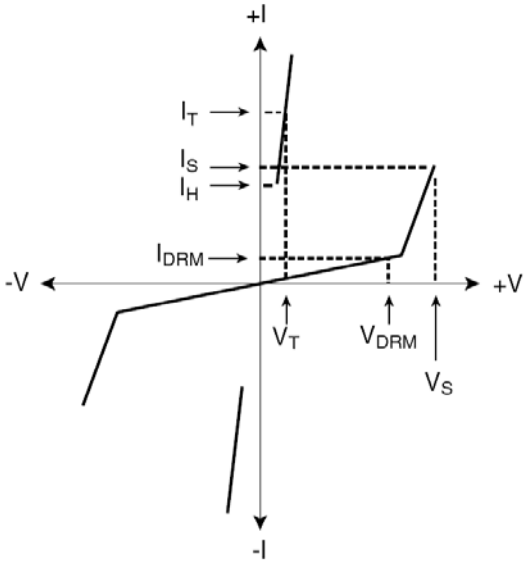


Figure 2 - tr × td Pulse Waveform

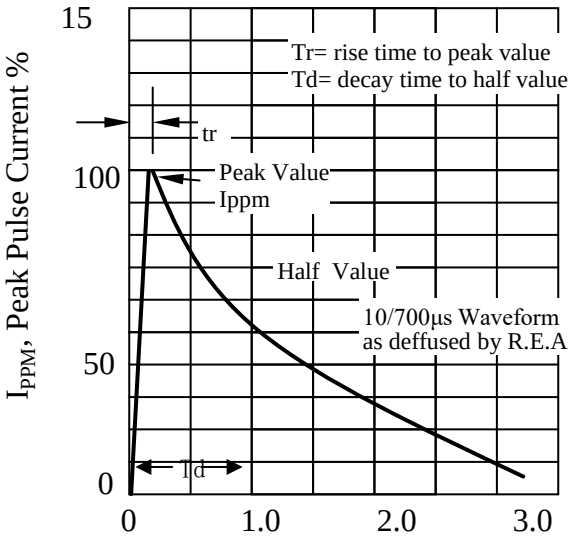


Figure 3 - Normalized VS Change vs. Junction Temperature

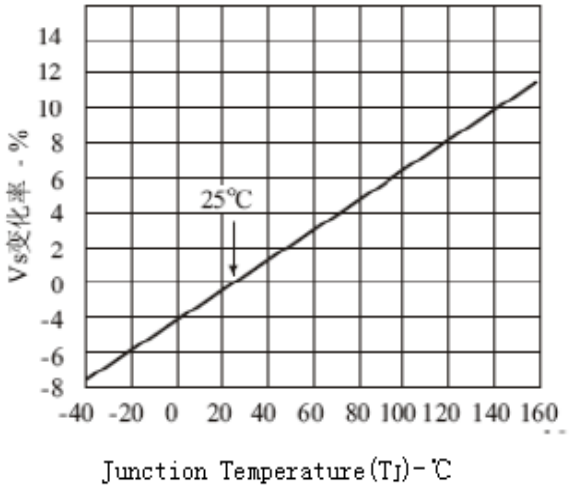
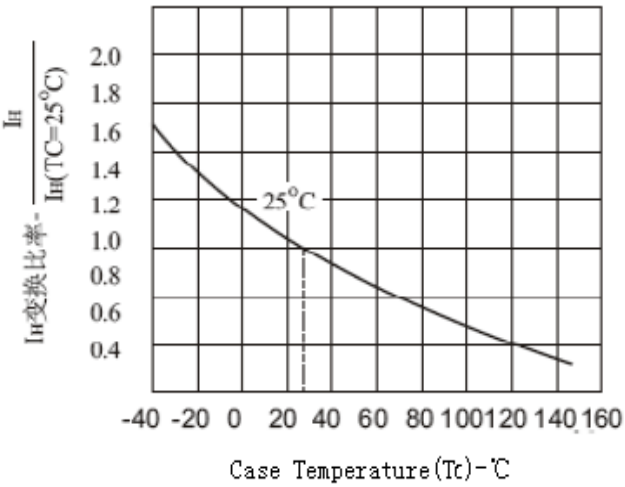
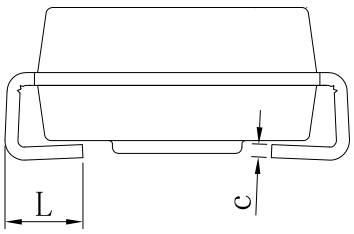
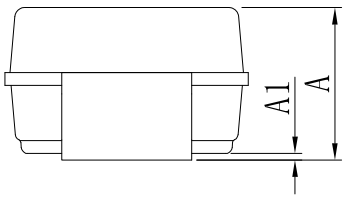


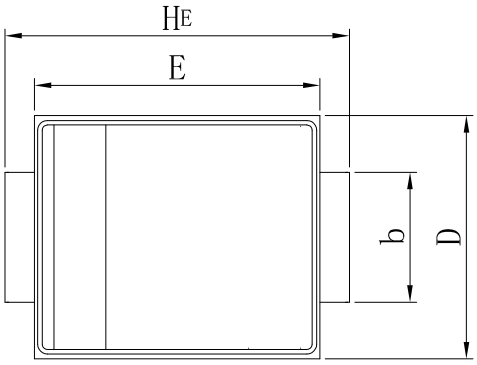
Figure 4 - Normalized DC Holding Current vs. Case Temperature



6.OUTLINE AND DIMENSIONS

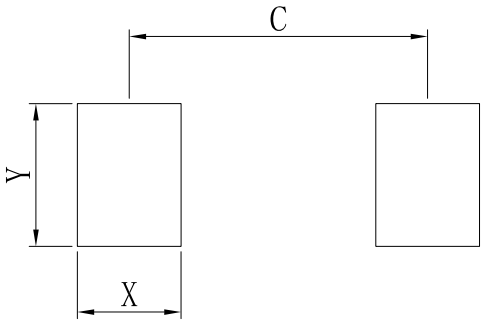






CSMB			
DIM	MIN	TYP	MAX
A	2.20	2.35	2.50
A1	0.05	0.10	0.20
b	1.80	2.00	2.20
c	0.10	0.20	0.30
D	3.30	3.75	3.94
E	4.06	4.40	4.60
HE	5.20	5.31	5.45
L	0.90	1.30	1.60
All Dimensions in mm			

7.SOLDERING FOOTPRINT



CSMB	
DIM	(mm)
X	1.60
Y	2.20
C	4.60

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